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Technical brief on measurement





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# Abbreviations

GDP	gross domestic product
OOP	out of pocket
SDG	Sustainable Development Goal
UHC	universal health coverage
WHO	World Health Organization

## Executive summary

All countries rely to some extent on out-of-pocket health spending to fund their health systems, which leads to too many people facing some form of financial hardship. The latest estimate, from 2019, pointed to 2 billion people struggling financially to sustain their living standards or meet other basic needs – such as those for food, housing and education – when they incur catastrophic or impoverishing out-of-pocket health spending, or both. However, the burden is more significant for some people. Recent analyses by the World Health Organization and the World Bank have shown that those living in households with older members face higher rates of catastrophic out-of-pocket health spending, and those living in multigenerational households face higher rates of impoverishing out-of-pocket health spending. These analyses reflect household types categorized by their members' age structure, a relatively easy characteristic to identify.

This brief first provides more conceptual details about how a life-course approach can be adapted to track inequalities in financial hardship due to out-of-pocket health spending by using the age structure of a household. Recognizing that the household is the risk-pooling unit that copes with the cost of needed health care, the life-course approach can be applied to the age structure of the household to distinguish between six distinct and mutually exclusive household types: very young (all members aged  $\leq 19$  years), younger (all members aged  $\leq 60$  years, with at least one member aged 0–19 and one aged 20–59), adults only (all members aged 20–59), multigenerational (at least one member in each of the following age groups 0–19, 20–59 and  $\geq 60$  years), older (all members aged  $\geq 20$ , with at least one member aged 20–59 and one  $\geq 60$ ) and only older (all members aged  $\geq 60$ ). Two separate indicators of financial hardship are used: the population with catastrophic out-of-pocket health spending and the population with impoverishing out-of-pocket health spending.

Second, using these two indicators of financial hardship, this brief presents estimates of inequalities by the age structure of the household for 91 countries or territories at all income levels – which is larger than the samples used in the global monitoring reports – and for a more extended period – 2000–2021. Results show that people living in a combined category of older and only older households consistently had the highest proportion of the population with catastrophic out-of-pocket health spending. The second highest proportion was among multigenerational households, while the lowest was among people living in younger households (the most common type of household). Notably, multigenerational households also consistently had the highest estimated proportion of the population with impoverishing out-of-pocket health spending, while the lowest proportion was estimated to be among adults only households (the least common type of household). Evidence also suggests there are some marked inequalities in catastrophic and impoverishing out-of-pocket health spending within countries, by the age structure of the household.



Third, this brief encourages the detection of inequalities by the age structure of the household to ensure that better evidence is used to inform decision-making. Age-disaggregated analyses can shed light on who is left behind, guiding the refinement of financial protection policies towards reducing households' overall financial burden resulting from out-of-pocket health spending. For example, we show that the highest rates of catastrophic out-of-pocket health spending occur among members living in older and only older households, which is alarming, as their population share is expected to increase everywhere due to the rapid ageing of the global population. Many countries already have health financing policies that limit or eliminate out-of-pocket health spending for specific age groups (e.g. women of reproductive age, children under 5 years). However, considering inequalities by the age structure of the household when analysing financial hardship is important because household members in different age groups might benefit from different financial protection mechanisms.



# Introduction

Out-of-pocket (OOP) health spending is an important funding source for health care worldwide. In 2019, global spending on health reached US\$ 8.5 trillion, double the amount spent in real terms in 2000. About 40% came from private sources, including household OOP health spending (1). OOP health spending is financed through a household's income, remittances, savings and loans for health care. However, such spending excludes prepayments for health care (e.g. from taxes, contributions or premiums) and reimbursements by a third party (e.g. the government, a health insurance fund or a private insurance company). In 2019, OOP health spending remained the most significant funding source for health systems in low- and lower-income countries, territories and areas, representing, on average, 44% and 40% of current health expenditure, respectively, compared with 34% and 21% in upper-middle and high-income countries, territories and areas, respectively (referred to throughout the text as country or territory) (1).

OOP health spending is a source of financial hardship (i.e. catastrophic, impoverishing OOP health spending, or both). To achieve universal health coverage (UHC), people should have access to the health services and products they need, where and when they need them, without incurring financial hardship due to OOP health spending. Financial hardship due to OOP health spending is a key consequence of a health system providing inadequate financial protection. Given the significant reliance on OOP health spending to fund health systems, the goal of UHC has, unsurprisingly, been out of reach. In 2019, 2 billion people faced financial hardship as they struggled to sustain their living standards because OOP health spending was impoverishing them (i.e. 1.3 billion people were pushed or pushed further into relative poverty) or because they struggled to meet other basic needs – such as for food, housing and education – due to catastrophic OOP health spending (i.e. 1 billion people spent more than 10% of their household budget on OOP health spending) (2). For some people, OOP health spending was both impoverishing and catastrophic. Using a back-of-the-envelope estimate, 12.6% of people worldwide faced both forms of financial hardship (2). However, not everyone is as likely to face economic challenges due to OOP health spending, especially when the household is the relevant risk-pooling unit that copes with the cost of needed health care. People living in households with different age structures face different odds of experiencing financial hardship.

The evidence points to important inequalities in financial hardship depending on the age structure of a household. The first large, multicountry analysis of household survey data from 133 countries collected during 1991–2018 showed that, on average, 13% of households with a high old-age dependency ratio<sup>1</sup> faced catastrophic OOP health spending as they spent more than 10% of their household budget on health. This was more than double the estimated rate for households with no dependency ratio<sup>2</sup> (3). Based on age-dependency ratios, this approach allows inequalities in financial hardship due to ageing to be captured, as well as the related effects

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1 Households with fewer than two members of working age, 18–60 years, per one older-age, >60, dependent member

2 Households without older-age dependent members

on labour productivity. But regardless of the links to productivity, age is a personal factor associated with health care needs, health care use and spending across the life course.

When the life-course approach is applied to health, it is seen as being determined by the accumulation of risk and protective factors encountered during various stages of life, and these can have additive or multiplicative effects on health trajectories (4–6). The life-course approach takes temporal and societal perspectives on the health and well-being of individuals and generations, recognizing that all stages of a person's life are intricately intertwined, not only with each other but also with the lives of family members (i.e. past, present and future generations) (7). This aspect of the life-course approach is relevant to the economics of intrahousehold allocations of resources to health care and to a micro-level perspective on OOP health care expenditures because it uses the household and family as the unit of analysis in recognition that decisions about allocating resources within a household and family are social, cultural and economic processes. The life-course approach is particularly relevant within the framework of monitoring financial hardship because related indicators (i.e. catastrophic and impoverishing OOP health spending) assume that a household's economic resources are pooled to cover the cost of care for all family members.

The conceptual framework for a life-course approach to health identifies four broad life stages: (i) birth, neonatal period and infancy; (ii) early and later childhood and adolescence; (iii) youth and adulthood; and (iv) older adulthood; these categories are based on programming approaches used in global health strategies (6). By combining recommended 5-year age bands (8) and four stages of life, from birth to older adulthood, distinct and mutually exclusive types of household structures were identified based on the ages of all household members (9, 10).

These household types included multigenerational households that have family members of all ages and at all life stages; older and only older households that have family members either in adulthood (aged 20–59 years) and older adulthood ( $\geq 60$  years) or just in older adulthood; and younger households that have family members in at least two of the first three stages of life, from birth to adulthood. Based on a restricted sample of 47 countries with household survey estimates for 2015–2019, the 2023 global monitoring report on UHC (2) identified sharp inequalities by the age structure of the household in financial hardship, especially between people living in three types of households: multigenerational, older and only older, and younger. For instance, people living in older and multigenerational households reported the two highest median rates of catastrophic OOP health spending, at 16.5% and 10.3%, respectively, while people living in younger households had the lowest median rate, at 5.4%. Based on a subsample of 35 countries during the same period, people living in multigenerational households and younger households had the top two highest median rates of impoverishing OOP health spending, at 23.1% and 16.9%, respectively, while those living in older households had the lowest median rate, at 7.9% (2).

This brief aims first to provide more conceptual details about the age-disaggregation analyses used to track inequalities in financial hardship due to OOP health spending. Second, it presents information about the availability of the existing estimates of catastrophic and impoverishing OOP health spending and the related within-country inequalities from more countries than were discussed in the 2023 global monitoring report on UHC (2) to promote applying the life-course approach to detect and address such inequalities. Third, it encourages the detection of such inequalities to ensure that better evidence is used to inform decision-making. Indeed, many countries already have health policies that target specific age groups and their well-being needs (e.g. health screening for women of reproductive age, vaccination for children younger than 5 years, hypertension check-ups for adults, and age-friendly cities and communities for pensioners). However, considering inequalities by the age structure of the household when analysing financial hardship is still important because household members in different age groups might benefit from different financial protection mechanisms. Age-disaggregation analyses can shed light on who is left behind, guiding the refinement of financial protection policies towards reducing a household's overall financial burden due to OOP health spending.

## Methods and data

WHO and the World Bank are co-custodian agencies of Sustainable Development Goal (SDG) indicator 3.8.2, one of the financial hardship indicators used to track progress towards UHC (SDG target 3.8).

SDG target 17.18 calls for all countries to increase the availability of disaggregated data by age and other characteristics relevant to national contexts (11). One call for collecting standardized age-disaggregated health data recommends using 5-year age groups for all health data (except for data relevant to those younger than 5 years) to facilitate the development of targeted, age-specific policies and actions for health care and disease management (8). Therefore, in response to SDG target 17.18 and to this call for standardised age-disaggregated health data, WHO, as a normative agency, proposed in 2020 to extend the life-course approach from age groups at the individual level (6) to the household level to monitor inequalities by the age structure of the household in catastrophic and impoverishing OOP health spending.

The methodological development was reviewed by the three levels of the organization and Member States as part of the country consultations on UHC conducted in 2020 and 2022 by WHO. It was also reviewed by the World Bank, which contributed to developing the reliability conditions described hereafter. Regional-level estimates based on the proposed method were first published in the 2021 global monitoring reports on financial protection in health (9) and UHC (10). Country-level estimates are available from the Global Health Observatory online database about financial protection assembled by WHO and the World Bank, 2023 update (12). All country-level estimates are subject to country consultations before being published online or in any document, including this one.

This brief is the product of a collaborative effort between the Financial Protection Monitoring Team of the WHO Health Financing and Economics Department, Switzerland, and the WHO Centre for Health Development, Japan. It provides the technical details of the analytical method, its application, and country-level estimates. The responsible staff in WHO ensured consistency between the descriptions provided in this brief and the methods developed for and published in the UHC global monitoring reports. In addition, the brief was reviewed by a wide range of individuals across WHO and the World Bank (see Acknowledgements).

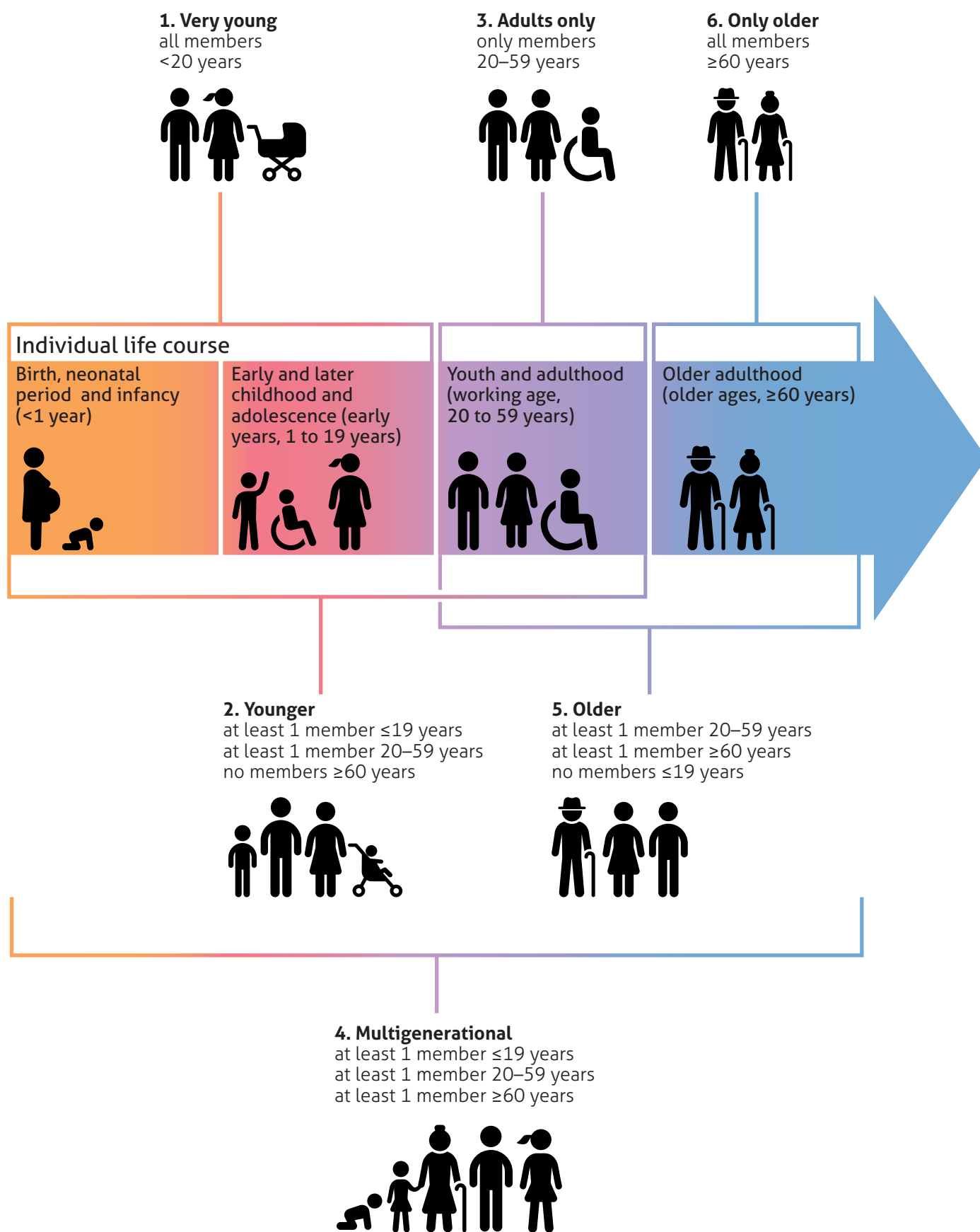
## How can a life-course approach be adapted to age groups for age-disaggregation analyses of financial hardship indicators?

### First step: extend the life-course approach from age groups used for individual-level data to household-level data to create mutually exclusive, distinct household types

When the life-course approach is extended to age groups, four important stages of an individual's life can be distinguished: (i) birth, neonatal period and infancy, covering neonates and infants who are younger than 1 year; (ii) early and later childhood and adolescence, covering those aged 1 to 19 years; (iii) youth and adulthood, covering people aged 20 to 59 years; and (iv) older adulthood, covering people aged 60 years and older (6). Along those stages, using 5-year age bands results in 24 age groups for individual-level data (8). However, financial hardship indicators are always tracked using information at the household level on (i) a household's total OOP health spending, which must include payments made for all household members; and (ii) a household's total consumption expenditures or income and, in some cases, the net household spending on necessities (see Annex 8 in reference (2)). Hence, by using information about the age group and stage of life of each household member at the household level, it is possible to distinguish between six distinct and mutually exclusive types of households (Fig. 1) (2, 9):

1. **very young** – all household members are younger than 20 years, and they are all in their first two stages of life (e.g. adolescents with or without a child);
2. **younger** – all household members are younger than 60 years, at least one member is in their third stage of life (i.e. adulthood, aged 20–59) and at least one member is in their first or second stage of life (i.e. younger than 20 years) (e.g. a household of adults with a child or infant);
3. **adults only** – all household members are aged 20–59 years, thus in their third stage of life (i.e. adulthood) (e.g. a household with a single adult or several adults living together);
4. **multigenerational** – this household includes at least one member in their first or second stage of life (i.e. younger than 20 years), one member in the third stage of life (i.e. aged 20–59 years) and one member in the fourth stage of life (i.e. aged 60 years or older) (e.g. a household with an adult who has a child and an older adult);
5. **older** – all household members are at least 20 years or older and in their third stage of life (i.e. aged 20–59 years) or fourth stage of life (i.e. aged 60 years or older) (e.g. two adults and two older adults);
6. **only older** – all household members are in the last stage of life (i.e. aged 60 years or older) (e.g. two older adults).

Fig. 1. Six types of households, based on age group and stage of life of each household member



**Source:** Authors' interpretation and visualization, based on age groupings and four stages of life of all household members.



## Second step: compute the incidence of financial hardship indicators (i.e. catastrophic and impoverishing OOP health spending) for each of the proposed household types

In principle, the incidence of indicators of financial hardship can be calculated for each of these six types of households to analyse inequalities by the age structure of the household according to the life stages of all household members. In practice, however, producing statistics at the population or household level (see next section) for all six types of household living arrangements may be challenging. Typically, the surveys used to monitor catastrophic and impoverishing OOP health spending are nationally representative and may not be designed to obtain representative samples of the population living in each household type. Therefore, to compute the population estimates by type of households, two conditions for reliability must be satisfied.

1. The number of households missing information about the age of more than one household member cannot exceed 10% of the sample. If it does exceed 10%, the age-disaggregation of catastrophic and impoverishing OOP health spending should not be conducted.
2. If the number of observations with an outcome within a given type of household is less than 15 households, the population rate within such a household type should not be computed. For example, suppose fewer than 15 very young households in the sample have catastrophic OOP health spending. In this case, the proportion of the population facing catastrophic OOP health spending within such a household type would not be computed. If it is possible to calculate the population rate for only one or two of the four types of households (younger households, adults only households, multigenerational households and older households), then the overall disaggregation is not presented because it is irrelevant for tracking inequalities by the age structure of the household. Additionally, since the relevance of the only older households type varies by region and country income level, for global monitoring, this household type is typically combined with the older households type into one single category, denoted as older and only older households.

## Which financial hardship indicators are used in this brief?

Financial hardship is monitored using the incidence of two indicators: catastrophic and impoverishing OOP health spending. Both can be calculated in different ways. For global monitoring, the definitions used are adopted from or closely related to the SDGs indicator framework. SDG indicator 3.8.2 (Catastrophic health spending and related indicators) defines the incidence of catastrophic OOP health spending as the proportion of the population with OOP health spending exceeding 10% or 25% of the household's total consumption or income (i.e. their budget). This brief focuses on people with OOP health spending that is more than 10% of their household budget because the population suffering catastrophic OOP health spending defined using the 25% threshold tends to be low – that is, 3.8% globally in 2019 compared with 13.5% using the 10% threshold (2) – which in many countries precludes the disaggregation of the population into a sufficient

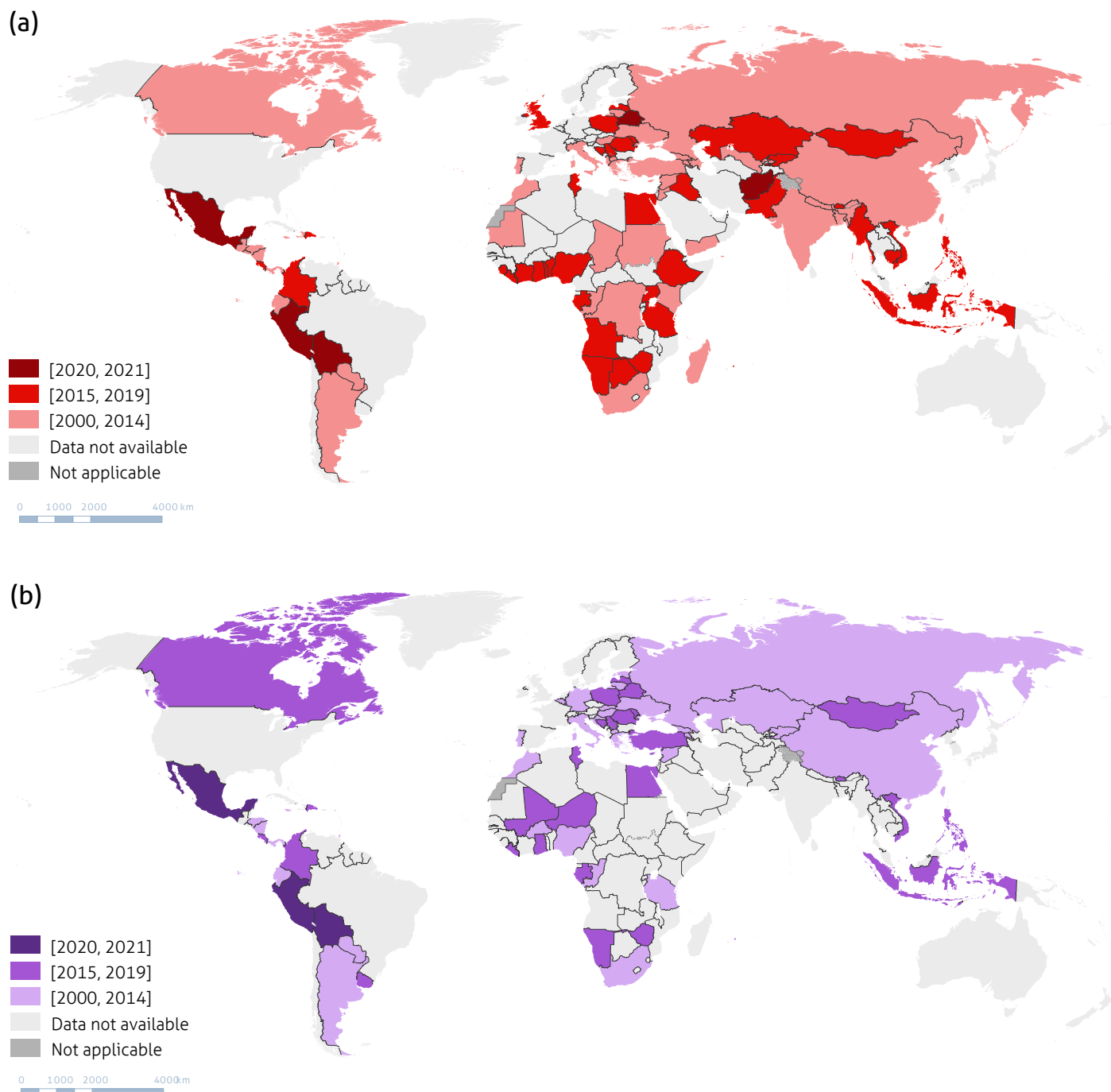
number of household types to make an analysis relevant. Impoverishing OOP health spending is defined as the proportion of the population pushed below the poverty line or further below the poverty line by this spending (9). Different poverty lines can be used to track impoverishing OOP health spending but in this brief, to reflect SDG 1 ("End poverty in all its forms everywhere"), country-specific relative poverty lines are used: these are defined as 60% of a country's median per capita consumption or income. In the results section, all incidence rates are at the population level in accordance with the definitions used for global monitoring.

### **In this brief, which data are used to analyse inequalities in financial hardship by the age structure of a household?**

The data used in this brief come from the published global database on financial protection assembled by WHO and the World Bank as part of the Global Health Observatory, specifically the 2023 update (<https://www.who.int/data/gho/data/themes/topics/financial-protection>) (12). All country level estimates went through a country consultation before being published (see (2) for more information).

The population living in three of the six possible household types was defined in the first step (i.e. younger, adults only, multigenerational), and a combined category of two types of households (i.e. older and only older) was defined in the second step, as described earlier in this section. The analyses were performed on a subsample of data for which information about the incidence of catastrophic and impoverishing OOP health spending was available for each of the three household types and a combined category. Overall, estimates of financial hardship caused by catastrophic or impoverishing OOP health spending among people living in these four household types were available for, respectively, 91 and 68 countries or territories, with the overall median for the most recent year being 2015 (Fig. 2). In both subsamples, it was impossible to compute the incidence of the population living in very young households as the defined condition for reliability was not met systematically. For catastrophic spending, only 15 countries (16.5%) had estimates available of the population living in each of the six possible household types (i.e. very young, younger, adults only, multigenerational, older, and only older); for impoverishing spending, only 14 countries (20.6%) had data available. Furthermore, samples were restricted to only the most recent data for a country.

Fig. 2. Availability of estimates of financial hardship due to catastrophic or impoverishing out-of-pocket health spending, disaggregated by household age structure: (a) for catastrophic spending at the 10% threshold in 91 countries and territories, latest available year; (b) for impoverishing spending at the relative poverty line in 68 countries or territories, latest available year



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**Source:** This map was produced by the WHO GIS Centre for Health with data from the Global Health Observatory online database about financial protection assembled by WHO and the World Bank, 2023 update (12). The figure uses a subsample of the data for the latest year during 2000–2021 only for countries, territories or areas that had data available about the incidence of catastrophic and impoverishing out-of-pocket health spending for each of the four household types considered (i.e. younger, adults only, multigenerational, and older and only older).

## Results

### **Globally, younger households are the most common and households with adults only are the least common**

In the sample of countries used for analyses, younger households (i.e. adults under 60 with children) was the most common form of household age structure. This observation held true across all WHO regions and income groups. A median of 61.0% of the population lived in such households in the 91 countries used to monitor inequalities in catastrophic OOP health spending by the age structure of the household (range: 31.1% to 82.3%) and a median of 57.7% lived in these households in the 68 countries used for disaggregating data about impoverishing OOP health spending (range: 20.4% to 78.9%). The least common household type was adults only, with a median of 4.5% of the population living only among adults in the 91 countries used to monitor inequalities in catastrophic OOP health spending by the age structure of the household (range: 0.44% to 26.0%) and a median of 9.7% in the 68 used to assess impoverishing OOP health spending (range: 0.13% to 33.8%). Across most WHO regions, in both subsamples the least common types included households with adults only and a combined category of older and only older households, except in the European Region, where the least common arrangement was multigenerational households in the subsample used to estimate impoverishing OOP health spending. Across country income groups, households with adults only, and the combined category of older and only older households were also the least frequent types, except for high-income countries, where multigenerational households were the least common type.

### **The proportion of the population with catastrophic OOP health spending tends to be highest among the combined category of older and only older households and multigenerational households**

Using a life-course approach showed that across 74 of the 91 countries (81.3%) with data for 2000–2021, people living in older and only older households consistently had the highest proportion of the population with catastrophic OOP health spending at the 10% level, and proportions ranged from 2.1% to 53.1% (median: 17.1%) (Fig. 3). This also held true when accounting for a country's income level, particularly in high-income countries (median: 21.4%). While people living in older and only older households were not the most prevalent in the analysed countries, their proportion is predicted to increase worldwide due to the rapidly ageing population, indicating that these findings will become more significant in the near future.

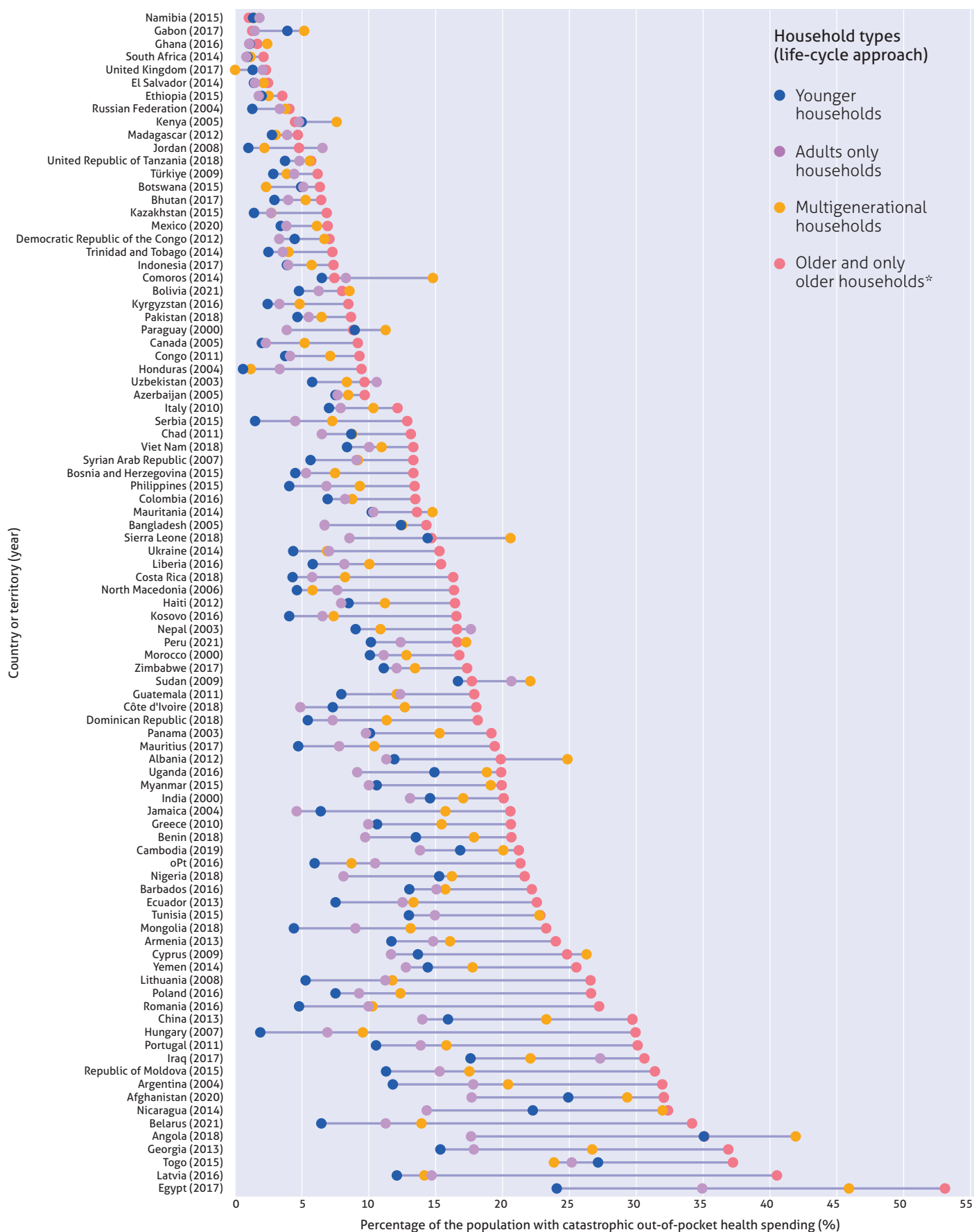
In 63 of the 91 countries or territories (69.2%), multigenerational households had the second highest proportion of the population with catastrophic OOP health spending at the 10% level, with overall rates ranging from 1.1% to 45.9% (median: 11.2%) (Fig. 3). The higher rates found among people living in older and only older households and those living in multigenerational households are consistent with the 2023 UHC global monitoring report, which used a smaller sample of 47 countries with the latest data from a shorter period, 2015–2019 (2). In 59 of the 91 countries (64.8%), the lowest

proportion of the population with catastrophic OOP health spending at the 10% level was estimated to be among younger households, the most common household type, with the incidence ranging from 0.6% to 24.1% (median: 5.4%).

### **There were some marked inequalities in catastrophic OOP health spending within countries by the age structure of the household**

Fig. 3 might suggest that inequalities in countries or territories are lower when the highest rate of catastrophic OOP health spending (SDG 3.8.2, 10% threshold) is below 5%. However, this is not the case. The median absolute difference in catastrophic OOP health spending was 8.6 percentage points between people living in the most common type of household (i.e. younger households) and those living in the type with the highest rates of catastrophic OOP health spending (i.e. older and only older households), while the median relative difference was 0.7%. The absolute difference between people living in the household types with the highest and lowest incidences ranged from 0.8 to 29.0 percentage points (median: 8.9 percentage points). In relative terms, in 50% of countries for which data were available, the highest incidence of catastrophic OOP health spending was at least 2.3 times higher than the lowest incidence. Relative differences were weakly and negatively but not statistically significantly correlated with a national rate of catastrophic OOP health expenditure (Pearson correlation coefficient  $r = -0.1787$ ,  $P = 0.0919$ ) and weakly, positively and statistically significantly correlated with the country's gross domestic product (GDP) per capita based on purchasing power parity in constant 2017 international dollars ( $r = 0.2507$ ,  $P = 0.0449$ ).

Fig. 3. Proportion of the population with catastrophic out-of-pocket health spending (Sustainable Development Goal indicator 3.8.2 at the 10% threshold) by household age structure, with countries or territories ranked by the highest values among older and only older households



oPt: occupied Palestinian territory, including east Jerusalem.

\* - a combined category of two types of households (i.e. older and only older)

**Source:** Data from the Global Health Observatory online database about financial protection assembled by WHO and the World Bank, 2023 update (12). The figure uses data from 91 countries or territories, 2000–2021 (median year: 2015).

## **The proportion of the population with impoverishing OOP health spending was highest among multigenerational households**

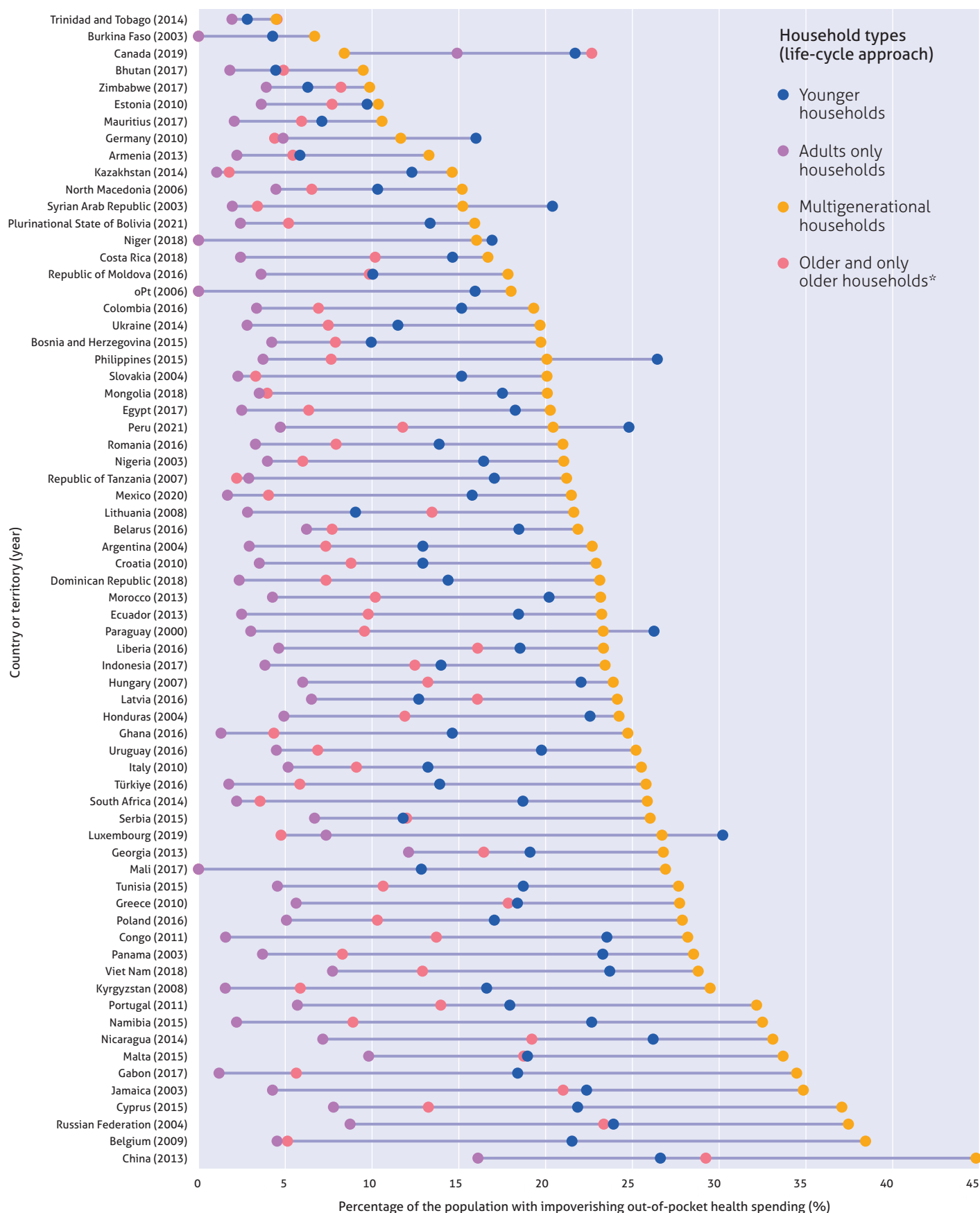
Using a life-course approach showed that across 68 of the 91 countries or territories (74.7%) with data for the period 2000–2021, multigenerational households in 59 countries (86.8%) consistently faced the highest proportion of the population with impoverishing OOP health spending at the relative poverty line, with proportions ranging from 6.7% to 44.8% (median: 23.3%) (Fig. 4). This also held when accounting for a country's income level, particularly in high-income countries (median: 25.4%). While this type of household is not the most prevalent within countries, it was the second most frequent type among analysed countries. In 54 of the 68 countries (79.4%) younger households – the most common type – had the second highest proportion of the population with impoverishing OOP health spending, with overall rates ranging from 4.3% to 26.2% (median: 17.0%).

The higher rates found among people living in multigenerational and younger households are consistent with the 2023 UHC global monitoring report (2), which used a smaller sample of 35 countries for a shorter period, 2015–2019. The lowest proportion of the population with impoverishing OOP health spending at the relative poverty line was observed among adults only households – the least common type – in 60 of the 68 countries (88.2%), with proportions ranging from 1.0% to 16.1% (median: 3.6%).

## **There were marked inequalities in impoverishing OOP health spending within countries by the age structure of the household**

The absolute difference between the most common household type (i.e. younger households) and the household type with the highest proportion of the population with impoverishing OOP health spending at the relative poverty line (i.e. multigenerational households) was 6.1 percentage points, while the relative difference was 0.3% (Fig. 4). The absolute difference between the household types with the highest and lowest incidences ranged from 2.6 to 33.9 percentage points (median: 19.4 percentage points). In relative terms, in 50% of countries for which data were available, the highest incidence was at least 5.7 times higher than the lowest incidence. Relative differences were weakly and positively but not statistically significantly correlated with the national rate of impoverishing OOP expenditure (Pearson correlation coefficient  $r = 0.1512$ ,  $P = 0.2367$ ), and they were weakly and negatively but not statistically significantly correlated with the country's GDP per capita based on purchasing power parity in constant 2017 international dollars ( $r = -0.2137$ ,  $P = 0.1172$ ).

Fig. 4. Proportion of the population with impoverishing out-of-pocket health spending, using the relative poverty line, by household age structure, with countries or territories ranked by the highest values among multigenerational households



oPt - occupied Palestinian territory, including east Jerusalem.

\* - a combined category of two types of households (i.e. older and only older)

**Source:** Data from the Global Health Observatory online database about financial protection assembled by WHO and the World Bank, 2023 update (12). The figure uses data from 68 countries or territories, 2000–2021 (median year: 2014).



## Discussion

### **Adopting the life-course approach at the household level is important for age-disaggregation analyses of financial hardship indicators**

Extending the life-course approach to age groups helps to map the disease burden and health risks individuals face across their life course (8) for which different types of care might be needed (e.g. from health promotion to prevention, treatment, rehabilitation and palliative care). For example, during the first stage of life, neonates may frequently require curative and preventive health services and products due to the many common neonatal illnesses and the need for preventive interventions, such as vaccination and screening, and their high risk of mortality. During childhood and adolescence, there are multiple physiological and mental health risks, and risks of drowning and being injured by road traffic. Risks of mortality and injury increase as risky behaviours emerge during adolescence, interest in sexual activity increases and older adolescents enter the reproductive age. During adulthood, disease burdens and health risks often vary within a 5-year age range, and adults may require health promotion, and curative and rehabilitative health services. The second half of adulthood brings declines in fertility, and physical and mental capacities. During older adulthood, individuals are at increased risk for many diseases due to the accumulation of risk over the life course, leading to greater needs for curative, rehabilitative and palliative care (8).

Many countries have developed policies that exempt or limit OOP health spending for specific age groups (e.g. women of reproductive age, children younger than 5 years) (13). Many countries also implement policies that play an important economic role for specific individuals (e.g. cash transfers, social assistance, unemployment benefits) or at specific ages (e.g. pensions), or both. However, most individuals do not live alone. Globally, only 4% of adults aged 18 to 59 years live alone versus 16% of persons aged 60 and older, with older women almost twice as likely as older men to live alone (20% versus 11%) (14, 15). The latest data show that globally the average household size ranges from 2.6 persons in high-income countries to 3.9 in upper-middle-income countries to 4.5 in lower-middle-income countries and 5.5 in low-income countries. Large households with five members or more are commonly observed in Africa, the Middle East and southern Asia. Africa and Asia also account for a high share of multigenerational households (16).

Financial hardship is driven by the magnitude of a household's OOP health spending in relation to the household's capacity to pay, and both are influenced by the age composition of the household, which is driven by the life stage of the family members as well as the economic resources of all household members. Thus, the proposed household-level classification allows researchers and policy-makers to take both into account. For example, children tend to be poorer than adults; couples with children, lone-mother households and extended families with children all tend to be poorer than other household types (17). All these types of households also include individuals who might be more likely to seek health care. This combined effect of greater poverty and more significant health care needs might

increase the odds of people living in younger and multigenerational households experiencing impoverishing OOP health spending. Indeed, in this brief and the previous global monitoring reports, these two types of households were found to face higher rates of impoverishing OOP health spending. People living in older households and only older households are also likely to be exposed to greater financial risks and OOP health payments due to a heavy burden of chronic diseases, and having multiple health care needs and higher health care costs, particularly at the end of life. Such financial risks will be even more significant for people living in households composed only of older members or with other members who are in poor health and have little or no income or assets; however, the impact may be negligible for households with many healthy people who earn incomes and have assets. The findings presented in this brief and previous global monitoring reports (2, 9, 10) suggest that people living in older households and only older households struggle in most countries due to OOP health spending. This is particularly important as population ageing is becoming one of the most significant social transformations of the twenty-first century, with implications for nearly all sectors of society, including financial and labour markets, goods and services – such as transportation, housing and social protection – as well as family structures and intergenerational ties (18).

### **It is possible to extend the proposed life-course approach to age groups at the household level**

There have been several strong calls to encourage data disaggregation to make adolescents and older people more visible and to inform actions to improve their well-being (8), including from the *Lancet* commission on adolescent health and wellbeing (19), the United Nations' declaration of the Decade of Healthy Ageing (2021–2030) (20), and the Titchfield Group's data on ageing-related statistics and age-disaggregated data (21). Data recently released by WHO and the World Bank demonstrate the value added by such decomposition to allow for inequalities in financial hardship to be tracked (2, 12). The proposed decomposition by household age structure and other types of disaggregation currently used in national monitoring frameworks ought to be used to report on a health system's performance on the path to UHC. Indeed, equity is a cross-cutting issue relevant to all life-course actions. Hence, it should be a guiding principle in developing, implementing, monitoring and evaluating such actions to ensure that no one is left behind (22). The proposed approach to monitoring inequalities in financial hardship clearly shows that families living with older persons and older people living alone face higher rates of catastrophic OOP health expenditures, and these household types are followed by multigenerational households. Moreover, multigenerational households also face higher population rates of impoverishing health spending, followed by younger households with children and adolescents.

Understanding the exposure to financial hardship due to OOP health spending for the groups who are most affected is important because of the impact that it has on household finances. Thus, it is increasingly necessary to develop policies to protect these groups against such financial hardship, especially considering health trajectories over the life-course and global trends towards population ageing, with the potential increase in the number of multigenerational households.

People's preferred household living arrangements may differ from their actual arrangements because of finances, family ties, cultural traditions, religion, health constraints or their limited functional ability. Hence, when social protection plans do not exist or are insufficient to provide for the least protected, then health care-related costs will always cause financial pressure, leading to economic hardship or increasing the likelihood of impoverishment due to catastrophic OOP health expenditures. Therefore, to improve the lives of people who are getting older and their families and communities, and in line with the objectives of the 2021–2030 Decade of Healthy Ageing (20), making progress towards UHC will require extending and improving the targeting of benefits packages to reduce financial hardship and to meet the health needs of people living in older and only older households or multigenerational households, especially for the poorest and most vulnerable segments of older populations.

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